

Building on tradition: Traditional experts and barefoot veterinarians in northern Kenya

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Traditional experts and barefoot veterinarians in northern Kenya



Paul Mundy

Your best cow has a problem...

Imagine you are a Turkana, a nomadic herder in the arid scrubland of northern Kenya. One of your best cows has given birth to a fine, healthy calf. But the afterbirth doesn't want to come out. A small piece is hanging out from the cow's vulva, and it smells bad and looks rotten. You've waited 12 hours, and it's clear that the cow will die if you don't do something. But what?

The nearest veterinarian is over 200 kilometres away. There's no way you can get there in time to fetch him, and you have no money to pay him, even if he were to walk into your hut right now.

What do you do?

You ask Alice Lorot for help. The old woman is well known as a healer of livestock diseases, and is especially renowned for her ability to deal with calving problems. She owns 10 camels and six cows herself, so she knows what she is talking about. She treats pregnant women, too: she helped out with the birth of your own son last year, so you have an especially high regard for her skills.

Alice Lorot takes a long root from a plant she calls *sokotei*, scrapes the skin of the root into a calabash of water, and soaks it for several hours. When the water has turned yellow and tastes bitter, she forces the cow to drink it. After a few hours, the afterbirth has come out, and the cow is contentedly chewing the cud while the new calf suckles.

Moving around

Somewhere around 30 or 40 million people in the world are nomadic pastoralists. Half of them – about 20 million people – live in Africa. They travel in small groups with their herds of cattle, goats, sheep and camels throughout the parched areas of the Sahel and the Horn of Africa in search of water and grazing.



Interviewing traditional healers about the medicinal herbs they use
(Photo: ITDG)

pastoralists move frequently, covering huge distances and often crossing international frontiers. They are poor, so cannot afford to pay for services. And they are hardy and independent, suspicious of outsiders – often with good reason.

Illiterate, but an expert

Pastoralists rely on their animals – they have to, or they will starve. Over the years, they have built up an enormous storehouse of knowledge about them: how to manage them, what they eat, what makes them ill, how to cure them. This knowledge is passed down from generation to generation, by word of mouth.

Some, like Alice Lorot, have become especially skilled in treating certain problems. Though she cannot read or write, Alice is truly an expert, in the same way as a doctor, dentist or lawyer is an expert in his or her own field.

But there are some diseases that Alice Lorot admits she cannot treat. Faced with an outbreak of trypanosomiasis or contagious pleuropneumonia, her herbal remedies are useless. Without modern medicines, the animals will die. And without enough animals to support them, the pastoralists become dependent on food aid and donor handouts.

From an economic and environmental point of view, nomadism makes a lot of sense. There isn't enough water to grow crops. Keep the livestock in one place, and they quickly graze down the vegetation and trample the ground nearby. The soil erodes, and without trees, the land turns into desert.

Nomads who move with their animals can take advantage of the rains – when they occur – and can move somewhere else if there is drought. They play a vital role in the economy: they sell meat and milk to town-dwellers, and settled farmers use the animals' dung to fertilize their land.

People who live permanently in villages and towns take certain things for granted. Their children can go to a school nearby. There is a clinic to help people who are ill, and there is a veterinarian to treat sick livestock. There may even be the luxury of roads, electricity, telephones and clean water.

But it is hard for a government to provide such services to nomadic peoples. The areas they live in are vast and sparsely populated. The

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Building on local knowledge

ITDG-Kenya, an international NGO based in Nairobi, is building on the knowledge of Alice Lorot, and of people like her, to fill a gap in the government's veterinary services. ITDG stands for Intermediate Technology Development Group. Its veterinarians train indigenous healers in basic western medicine: how to diagnose diseases, how to select the right medicine and calculate dosages, and how to inject the sick animal.

But the training does not stop there. ITDG encourages Alice Lorot to share her experience with other healers. She and her colleagues are generous with their knowledge and skills: they freely give advice to others on how to prepare medicines or treat particular diseases.

With the help of the healers, ITDG staff have compiled a list of the plants they use, and are checking the ingredients of each plant. If they find one that is effective, they will be able to recommend the plant to others as a legitimate treatment. And they will be able to ensure that the community that first used the plant gets the credit for discovering it.

Alice Lorot and several other healers attended a workshop and helped compile a manual on traditional veterinary medicine. (This workshop, managed by ITDG and the IIRR, is described on pp. 177–182). Thousands of copies of this manual have been sold, helping to spread the idea of building on local knowledge to others throughout Africa and the world.

Supporting government services

ITDG's work with pastoralists is not confined to the traditional healers. It also works closely with the government veterinarians working in Marsabit and Turkana districts in northern Kenya. The veterinarians have a very limited budget: not nearly enough to pay for transport, drugs or other supplies they need to serve their districts adequately. ITDG helps them by providing transport and assisting with campaigns to vaccinate livestock against deadly diseases such as rinderpest.

ITDG staff also train barefoot veterinarians, or paraveterinarians, known in Kiswahili as "*wasaidizi*". These workers are given training in how to identify and diagnose major diseases, use basic medicines, and when to refer difficult cases to a qualified veterinarian. They live in the community, earning their living partly from a small salary paid by the government, and partly from the sale of medicines to their clients. Since 1986, when ITDG began its animal-health work,



A Turkana woman treating a camel against trypanosomiasis
(Photo: Alphonse Emuria, ITDG)

it has trained several hundred paraveterinarians, as well as hundreds of pastoralists. Other organizations, such as Farm Africa and the Participatory Community-Based Vaccination and Animal Health Project, have similar training schemes.

The “tree of men”

Some development projects organize local people into self-help groups – for example, for training or so they can get credit. But these new organizations often do not work well: when the project funding ends and the staff withdraw, the organization quickly breaks up, and many of the benefits are lost.

Rather than create new groups, ITDG instead works closely with traditional organizations, known as *adakhars* in Turkana and *yaa* in Marsabit. These are groups of elders and community leaders, who meet under a sacred tree, known as the “tree of men”, to discuss important issues and to make decisions that affect the whole community.

Working with these community leaders has several advantages. The *adakhars* and *yaa* decide whether they wish to collaborate with the ITDG veterinarians. They select who will attend the training offered by ITDG, and they nominate members of the committees who run community drugstores. Because the training and other activities have received the elders’ seal of approval, they are far more likely to

continue to be used after ITDG eventually withdraws from the area.



A Kamba healer showing the herb he uses to treat retained placenta
(Photo: ITDG)

The *adakhars* and *yaa* are composed entirely of men. Women are not permitted to sit under the “tree of men”, so their opinions are not heard. That is particularly a problem in livestock health, since it is often the women who are responsible for looking after the sheep and goats, and it is often they who buy drugs to treat sick animals.

ITDG is trying to change this. It tries to make sure that women are invited to attend training, and that there are women on the key decision-making bodies. In 1998–99, two-fifths of the more than 200 trainees were women, and women now sit together with men on the drugstore committees. Slowly but surely, the status of women is being

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raised, and they are becoming more involved in planning community affairs.

Standing on four legs

It's important to monitor a development project so you know whether it is effective, and so you can change direction if necessary. But how do you monitor it when the people you are working with cannot read or write? ITDG has come up with an innovative method in keeping with its approach of building on local knowledge.



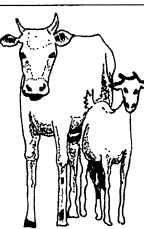
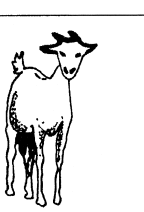
The Turkana keep four types of livestock: camels, cattle, sheep and goats, and donkeys. They say that if they are doing well, they are "standing on four legs", where each leg represents one type of animal. But things don't always go as well as this. The Turkana then say that they are "standing on three legs". If the situation is worse – say, because of a drought or an outbreak of disease – they say they are "standing on two legs". If there is a major crisis, and people die of hunger or disease, they say they are "standing on one leg" – or even on "no legs".

The Gabbra people in Marsabit district use a different system, based on colours. White is the best situation, equivalent to "four legs" among the Turkana. Blue (or grey) is less than satisfactory, equivalent to "three legs". Red means an impending crisis ("two legs"), and black is an actual crisis ("one or no legs").

ITDG uses these traditional measurement systems to monitor things such as disease outbreaks, drought and the security situation (cattle raids are frequent). Project staff combine the number of "legs" (or the colour) with other information such as rainfall data, malnutrition as measured in health clinics, and disease outbreaks reported to the government veterinary services, to build up an overall picture of the situation in the district. The staff can then decide what actions to take – for example, whether to undertake an emergency vaccination campaign or to try to resolve conflicts among rival groups.

Turkana Participatory Impact
Monitoring Report January 2000

Turkana indicator levels

Symbol	Indicator level and description.	Meaning	Colour coding - Marsabit
	4 Legs: four livestock types: Camels, cattle, goats and donkeys.	Represents food security or a wealthy pastoralist. Having four livestock types is the desired state. It also represents a mobile animal - an animal with four is the most mobile	White colour. Similar in Turkana. White stands for milk which the pastoralists say it stands for purity, for life, for survival.
	3 Legs: 3 livestock types	1 livestock type is lost. It is like an animal, which has lost 1 leg.	Blue colour. Turkana do not relate with blue. Instead they chose a mixture of white and black. This is the colour they called Engorog.
	2 legs: 2 livestock types	2 livestock types have been lost. The family is surviving on only 2. Similar with an animal having 2 legs.	Red colour in Marsabit. The same colour in Turkana. Red (Ereng - Turkana) stands for blood or danger.
	0 - 1 leg: Situation of total loss. Having very few or no livestock at all	All livestock types have been lost- a situation of total loss.	Black in Marsabit. The same in Turkana (Lokirion).

Using traditional monitoring systems to assess community welfare in northern Kenya

Making the law more realistic

Kenya has strict laws about who is allowed to use certain types of drugs. Only qualified veterinarians, for example, are allowed to use “part-one poisons”, a category that includes injectable antibiotics. But there are few veterinarians around, and the drugs are readily available: Kenya’s northern boundaries are porous, with people and medicines moving freely into and out of Ethiopia, Somalia, Sudan and Uganda. The owners of the small shops that sell drugs often do not know how to use the medicines properly. They may sell the wrong medicine, or the wrong amount, wasting money and leading to under-dosing and the development of resistant disease strains.

A decade-and-a-half of experience has shown that when suitably trained, paravets and herders can apply medicines safely and correctly. The government veterinary services and the ministry are coming to realize that allowing these people to treat animals – and training them so they can do it correctly – is the only realistic way of controlling livestock diseases in northern Kenya. Thanks to the work of ITDG and other NGOs, there is now hope that the pastoralists in these remote areas will, for the first time, have access to effective animal health services.

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Farmers' knowledge

Promoting farmers' experiments: Watching the birds in Trinidad



Cheryl Lans

1988 – and Trinidad and Tobago's chicken farmers faced a problem. The prices of imports were unpredictable because of IMF-mandated structural adjustments: a serious concern in an industry where almost everything, from the soybean and corn used as feed, to equipment and drugs, and even most of the baby chicks, are imported from the USA.

Some farmers thought about using medicinal plants to treat their flocks. They could grow these plants – aloe, bitter gourd and citrus – on their farms, saving the cost of buying expensive imported drugs. They had heard about these folk medicines from other farmers, neighbours and relatives.

But were the plants effective? The farmers started some informal experiments to find out. They squeezed out the juice and put it in the chickens' drinking water, or just put the plant in the water whole. They checked their flocks for health problems common in chickens: lack of appetite, heat stress, colds and other respiratory problems, and the number of chicks that died.

BOX 13

Filling dinner plates

As in many developing countries, chickens are an important source of protein for Trinidad and Tobago's population. Filling the dinner plates are two main types of broiler operations.

First, there are contract farmers who work for two big poultry-processing plants, who raise between 5000 and 90,000 birds each a year. These processing plants supply government institutions, supermarkets and hotels.

Then there are small, independent broiler operations that supply live birds to small-scale roadside shops. There, the birds are kept in a shed until they are slaughtered, plucked and dressed for customers.

How about that boiled egg for breakfast? As in most countries, egg production is separate from the broiler industry. There are fewer egg producers than broiler raisers.

Spreading the word

The animal health assistants of the government's Poultry Surveillance Unit (see Box 14) noticed the farmers were doing these experiments. The health assistants would help the farmers conduct the tests, monitor progress and keep their colleagues informed at the surveillance unit's regular weekly meetings.

Information also flowed in the opposite direction, from the unit to the farmers. The unit staff kept the farmers informed of research being done outside the Caribbean on medicinal plants that might be useful in Trinidad.

The staff of the unit spread news about the tests to 100 other poultry farmers. They used three criteria to decide which information they should disseminate:

- Did the plant improve production?
- Did it have any harmful effects?
- Did the farmers who tested the plant use it again and again?

How much of each medicinal plant should go in the chickens' water? The unit staff worked out dosages for each plant, but they gave this as a guideline for farmers to work with, not as a fixed standard.

BOX 14

Poultry Surveillance Unit

The Poultry Surveillance Unit is unique within the Ministry of Agriculture, Land and Marine Resources in Trinidad and Tobago. Started in 1981 to provide veterinary and technical services, by 1995 the unit had eight animal health assistants, including two women, who were assigned to different districts in Trinidad. The unit head was a veterinarian.

The statistics are impressive: in 1994, the unit staff made a total of 544 visits to 55 layer farms, with a capacity of over 450,000 laying hens and a total production of over 43 million eggs a year. They also made over 2000 visits to 165 broiler farms, which produced nearly 6 million broilers. On top of that, the unit also deals with a small number of ducks, guinea fowls and turkeys.

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Most chicken farmers in Trinidad keep chickens in sheds with wire-netting sides, on a floor covered with bagasse (the stalks left over from crushing sugarcane to extract the sugar). The birds drink from automatic drinkers, fed from an overhead storage tank. That makes it easy to apply medicine to the whole flock: all you do is put it in the water tank, and each bird is treated when it drinks.

Because all the farmers used the same system, they were all able to adopt the medicinal plants that the unit staff told them about. Other factors were important, too. The plants were hardy and easy to grow, the farmers were familiar with them, and the medicines were easy to prepare. Plus, healthy-looking chickens – and fewer dead chickens – are easy to see, directly in the poultry shed, and indirectly in the farmer's wallet.

Another service provided by the unit also contributed to the spread of the medicinal plants. Dr Gabriel Brown, the unit head, was responsible for doing post-mortems on diseased birds to find out why they had died. So he had inside information on the diseases on each farm, and could advise the farmers accordingly. The farmers in turn could press the unit staff to find solutions to their flock's problems. Healthy flocks would reduce Dr Brown's workload of examining dead chickens: a strong incentive for success!

Lessons from the chicken shed?

The Poultry Surveillance Unit takes great care to distinguish between useful and non-useful knowledge. Surprisingly, many research and extension agencies fail to do this, giving farmers advice they cannot use, or promoting technologies that don't work in the particular set of circumstances.

The unit carefully nurtured relationships with key poultry farmers, and helped them test medicinal plants. It then took these findings and spread them to other farmers who could benefit immediately from cheap, local solutions to their problems.

Finally, rather than trying to promote some outside technology to address a researcher-identified problem, it helped farmers to answer farmers' problems. The farmers contributed their expertise, and so did the unit. This sharing of knowledge is a key feature of the new extension approaches now being implemented throughout the developing world.

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Farmers' knowledge

Conserving indigenous knowledge:
Food from the forest



Tony Jansen

The thatched building by the sea houses Sasamunga Hospital's primary health-care unit. Inside sits a small group of men and women from nearby villages in Luru, an island in the Solomons.

The group is discussing which sorts of wild yam are found in *piara piuu* areas. Local people harvest the yams and other wild plants for food from these and other areas. *Piara piuu* is just one of 14 different types of local vegetation, covering original forest and forest regrowth on abandoned shifting-cultivation garden sites.

The group questions the most senior person, Reggie Pitisopa, and other elderly participants, and after some discussion, comes to a conclusion. Someone carefully writes down notes in the Babatana language.

Gwendlyn Pitavavini, the project coordinator and a resident of the village, guides the discussion. She shows the group some drawings by an artist in the nearby village of Papara. Some of the drawings depict traditional stories about the plants. The group discusses their accuracy and composes captions for each one.

Poverty amid plenty

Babatana is just one of the seven languages spoken by the 16,000 people of Luru. Also known as Choiseul, Luru is a large, mountainous, forested island in the north-east of the Solomon Island archipelago in the south-west Pacific. Isolated from itself and the outside world for centuries by the sea, mountains and forests, the Solomons are biologically, linguistically and culturally very diverse.

This richness doesn't translate into economic prosperity. Eighty percent of the people of Luru live in remote rural communities, where each family grows most of its own food. Farmers clear a patch of forest, grow crops for a few years, then move on to another patch when the soil fertility declines and weeds become too hard to control. Malnutrition is common, especially among small children.

Recognizing this, the hospital's primary health-care unit decided to look at the types of food that local people grow and eat. It teamed up with an Australian NGO called APACE (Appropriate Technology for Community and Environment) to promote small kitchen gardens close to people's houses. Eventually, interest spread to another, rapidly disappearing, source of food: forest food plants.

Forest foods

In the past, forest foods provided security in times of drought, war or unrest, cyclones and crop failure. They are also an important part of Luru culture, and of people's relationship to the land and the forest. But imported, processed foods – white flour, white rice, noodles – have been growing in popularity, and forest foods have been disappearing from Luru kitchens.

Changing diets are leading to increasing health problems in Luru, such as near-epidemic diabetes and heart disease. Knowledge of some forest food plants and how to cook them is being forgotten.

The group in the thatched building is adding to what is now the sixth draft of a book being produced by the people of Babatana. Called *Petanigaki ta siniqa ni Luru* ("Food of the forest of Luru"), the book is being written by over 60 local people, through a series of workshops and working groups held over a period of three years. The book will be an educational resource for the young people of the area about food from the forest: where it is found, how to manage and harvest it, and how to cook it.

Less than half of the people of Luru can read and write, and most people speak English as a second or third language. So the book is being written in the local language as well as English, and has abundant illustrations by a village artist, leaf-prints by local schoolchildren to help readers identify plants, and keys to help uneducated readers.

The book has separate sections on the edible nuts, fruits, yams, mushrooms and greens found in the forest. It doesn't cover just the food plants: it also documents the vegetation and land types, seasons and plant types.

Immediately behind the coastal villages of Luru, steep ridges clad in tropical rainforest rise abruptly to the island's central range. It is in these rugged mountains that the project's field staff work, under the guidance of villagers, to collect specimens of bush foods and other useful plants.

In the village, the collected specimens are laid out and villagers with knowledge of the plants, usually older people, identify and name them. Workshops are then organized to demonstrate how to prepare and cook the plants.

The process of producing the book has been as much of an awareness and educational exercise as the final product will be. Schoolchildren, chiefs and women's groups have all been involved in the collection and recording process.

The writing process has sparked a revival in the use of the plants. Villagers have started trying to cultivate the plants, and primary-school teachers are beginning to discuss the plants in their lessons.

Forest for food security

In late 1997 and early 1998 the El Niño phenomenon produced drought in the normally wet Solomons. Crop failures and water shortages hit an area that is used to rainfall of over 3500 mm spread over most of the year.

The work of recording and revitalizing the use of forest food plants took on a new meaning for local people. While sweet potato and taro crops were failing, there was abundant food to be had in the forest (the manual documents 87 species) that could sustain people – as long as they knew which plants were which, and how to use them.

The forest foods also provide an important reason to manage the forest in a sustainable way. In recent times the Solomons' forests have been decimated by commercial logging. Villagers needed to be reminded that the forest is useful in many other ways – not only as a source of timber.

Collaboration

The project is a collaborative effort between the Solomons National Herbarium, APACE and the Sasamunga hospital's community-based primary health-care programme.

Myknee Sirikolo works in the National Herbarium in Honiara, labelling and documenting plant specimens collected in distant Luru. He is the botanist and the main community facilitator in the project. He labels the plants carefully and checks the description in Babatana – his mother tongue – with the English-language documentation available in the herbarium. He jots down some questions to ask the community elders on his next visit to Luru.

On the other side of town is a small, thatched house, the APACE coordinating office. Solar power provides electricity to run a computer, where Florence Nodoro, a young woman from Luru employed by APACE, enters the Babatana and English text and pictures and prepares the layout of the manual.

APACE and the National Herbarium combined their expertise – ethnobotany and grassroots development – to establish the Luru Forest Food Project that is working with the people of Luru to produce the manual. The project is supported by the People and Plants Initiative (a joint project of WWF, Unesco and the Royal Botanic Gardens, Kew) and AusAID.

The manual will be distributed to communities where it will provide a permanent record of their forest food heritage, and can be used for nutrition training for adults and school lessons for children. At the same time, it will be a record of the past and a basis for the future.

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